Small Business Innovation Research/Small Business Tech Transfer

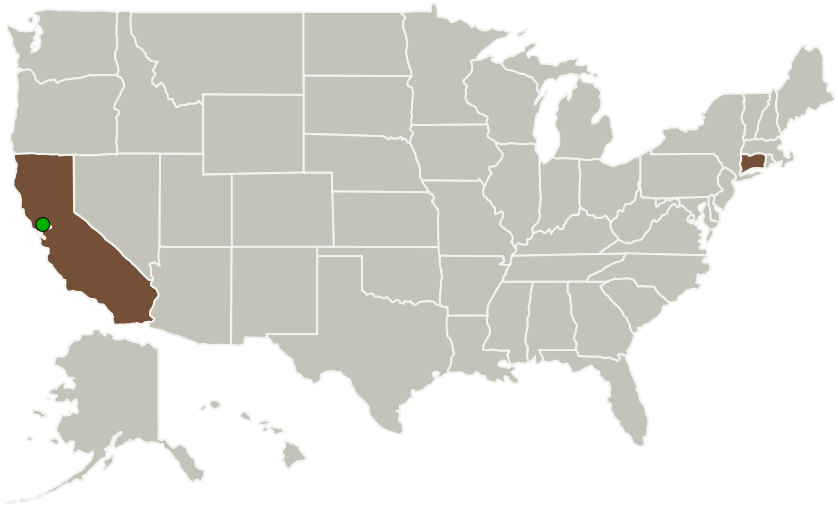
Automation for Vehicle and Crew Operations, Phase II

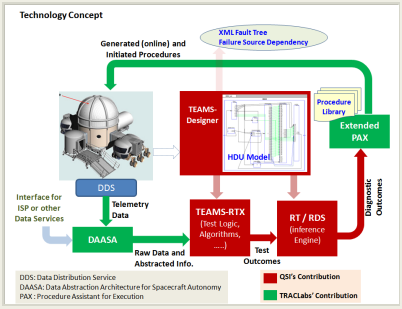
Completed Technology Project (2012 - 2014)

Project Introduction

Space missions are immensely costly endeavor – fault free function of the hardware and software used therein are highly critical to mission success. Being highly complex, manual intervention in operation, troubleshooting, and health management related areas are labor intensive and time consuming. On top of that with time the complexities of the systems are increasing, and the performance and availability requirements are become even more stringent. In the face of this situation, automation technologies are increasingly looked upon to perform critical tasks in short time, without manual intervention (or with minimal intervention) in error-free manner. Qualtech Systems, Inc., in collaboration with TRACLabs, Inc., proposes developing novel capabilities in the areas of health management, providing information for health and capability-related situational awareness, acquisition of data from onboard systems, and generating and invoking procedures for troubleshooting, restoration of operation, and/or initiating safety assurance processes.

Primary U.S. Work Locations and Key Partners





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Organizations Performing Work	Role	Type	Location
Qualtech Systems, Inc.	Lead Organization	Industry Minority-Owned Business, Small Disadvantaged Business (SDB)	Rocky Hill, Connecticut
Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California

Primary U.S. Work Locations	
California	Connecticut

Project Transitions

April 2012: Project Start

June 2014: Closed out

Closeout Summary: Automation for Vehicle and Crew Operations, Phase II Pro ject Image

Closeout Documentation:

- Final Summary Chart Image*(https://techport.nasa.gov/file/137936)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Qualtech Systems, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

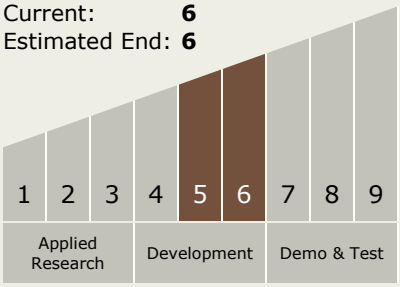
Carlos Torrez

Principal Investigator:

Sudipto Ghoshal

Technology Maturity (TRL)

Start: **5**
Current: **6**
Estimated End: **6**



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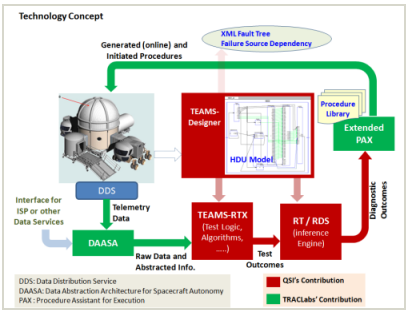
Images



Briefing Chart Image
Automation for Vehicle and Crew Operations, Phase II
(https://techport.nasa.gov/image/129720)

Technology Areas

Primary:

- TX10 Autonomous Systems
  - TX10.1 Situational and Self Awareness
    - TX10.1.6 Anomaly Detection

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System